

Michigan Department of Agriculture

Laboratory Division

Consumer Protection Section Annual Report 2007

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Consumer Protection Section Mission Statement

Prevent economic fraud and deception concerning weights and measures, motor fuels quality, labeling and advertising of all commodities.

Be responsible for environmental issues as they relate to the distribution of gasoline products.

Provide National Institute of Standards and Technology traceability on the state's standards and measures.

Provide regulatory resource expertise to the public, industry, and government.

Michigan Department of Agriculture Laboratory Division • Consumer Protection Section 2007 Annual Report

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Metrology Laboratory

The E.C. Heffron Metrology Laboratory calibrated more than 11,000 standards during FY 2007. This included internal standards for the State of Michigan, official standards for field investigations, and the overall monitoring of commerce including approximately 150 industry customers. External customers utilizing this "fee-for-service" support included: other state metrology laboratories, registered service agencies, the automotive industry, pharmaceutical manufacturers, and a variety of other companies. The laboratory also participated in nine "round-robin" interlaboratory comparisons where all test data is reviewed and compared against official data gathered from other states throughout the Midwest. These comparisons assist the laboratory in monitoring its uncertainty controls to ensure traceability to official U.S. standards of length, mass, and volume.



The E. C. Heffron Metrology Laboratory is nationally accredited and provides the most precise calibration services to industry and laboratories across the country.

As part of its program to encourage a high degree of technical and professional competence, the Weights and Measures Division (WMD) at the National Institute of Standards and Technology (NIST) developed performance standards and formalized procedures for recognition of state legal metrology laboratories on a voluntary basis. Certificates of Measurement Traceability are issued upon evaluation of a laboratory's ability to make reliable metrological measurements (principally mass, volume, length, and temperature). The laboratory's Certificate of Measurement Traceability was renewed by NIST on January 1, 2007.

An onsite audit was conducted by the National Voluntary Laboratory Accreditation Program (NVLAP) in February 2007. The audit revealed zero deficiencies, a high achievement for a complex analytical laboratory, and the lab maintained its accreditation for a broad range of high echelon calibrations. NVLAP provides third-party accreditation to testing and calibration laboratories. NVLAP's accreditation programs are established in response to Congressional mandates or administrative actions by the Federal Government or from requests by private-sector organizations. NVLAP is in full conformance with the standards of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), including ISO/IEC 17025 and Guide 58. Michigan's scope of accreditation can be found online at http://ts.nist.gov/ts/htdocs/210/214/scopes/2004080.pdf.

Benefits of the laboratory include: ensuring accuracy and stability in the commercial measurement system; technical support of other state agencies; the facilitation of high tech and precision manufacturing; protecting Michigan's roads from overweight vehicles through the use of portable wheel load scales; and the promotion of safety.

Laboratory Activities

Mass Standards Testing Results

Mass standards are test weights used by industry, service companies, and enforcement programs to determine the accuracy of weighing devices. They vary in size from 6,000 pounds to one micropound and from 500 kilograms down to one milligram.

TOTAL Approved Adjusted Condemned 791 52

Metrology–

"the science of measurement" – provides the uniform standards upon which all other measurements utilized in commerce are based. Michigan's standards are traceable to the U.S. Standards maintained at the National Institute of Standards and Technology in Gaithersburg, Maryland.

Volumetric Standards Testing Results

Volumetric standards are provers used in the testing of liquid measuring devices such as gas pumps, fuel oil, and LP Gas measuring meters.

	<u>Approved</u>	<u>Adjusted</u>	<u>Condemned</u>
TOTAL	226	156	2



An MDA senior laboratory metrologist verifies the the volume level of a 100 gallon prover.

The laboratory calibrated several internal standards totaling: 164 mass, six volume, and four thermometers. The laboratory also calibrated 11 linear standards, 15 thermometers, and 635 wheel load weighers used in primary and secondary road load enforcement for state and local jurisdictions.

Weights and Measures Program

The Weights and Measures Program responded to more than 1,800 consumer complaints ranging from inaccurate gas pumps and propane cylinders, to short measure deliveries of home heating fuels. Additional investigations involved short weight packages, misbranding or deceptive advertisements, item pricing violations, and grocery checkout scanner errors. Consumer complaints are the number one priority of the Weights and Measures Program which also bears responsibility for conducting random or risk based inspections and audits involving commercially traded products sold by weight, measure, or count throughout the State.

Rising commodity prices in virtually every area of commerce means even small errors can have a large negative impact on the budgets of Michigan residents and businesses, resulting in greater focus being placed on this well respected program. The Weights and Measures Program consists of individuals that are versed in multiple technical disciplines who inspect, test, and evaluate highly sophisticated commercial measurement systems to eliminate fraudulent activity from the marketplace.

The Program's efficiencies and effectiveness are maximized through projects focused in areas not commonly involved with consumer related complaints, thus ensuring Michigan consumers and businesses are getting their money's worth. Special projects vary in scope, and may include surveying large bulk deliveries to businesses such as retail gasoline outlets and farms, or much smaller deliveries like landscaping materials to a consumer's home.

Prior years' enforcement actions coupled with increased industry participation in program sponsored training initiatives brought about a decrease in the number of firms issued monetary penalties in FY

2007. This trend is expected to continue in FY 2008 as the Weights and Measures Program increases it's outreach to Michigan industry by offering education and guidance to businesses in complying with weights and measures related issues. Great pride is taken in

assisting to promote Michigan products in the global marketplace.

"Compliance through Education and Cooperation". On the Web at www.michigan.gov/wminfo

Michigan's Weights and Measures Program Manager conducts an interview during an MDA media event.



Weights and Measures Information and Statistics Weights and Measures Undercover Activities

Consumer Protection Section employees are equipped with unmarked vehicles holding calibrated false tanks used to conduct unannounced dispenser accuracy checks. Following are the results of these unannounced purchases during FY 2007:

Number of Purchases	439
Number of Shortages ≥ 1.0%	7
Percentage of Purchases ≥ 1.0% Short Measure	1.6%



A Weights and Measures Inspector records notes as he returns gasoline to storage following an inspection.

Weights and Measures Complaints Investigated

Item Pricing and Accuracy	221
Retail Motor Fuels Dispensers	*1,515
01 11/14	

Short Weight/Measure 52
All Other Complaints 33
TOTAL 1.821

* Gas complaints were jointly investigated with MDA's Motor Fuels Quality Program.

Weights and Measures Information and Statistics Disposition of P. A. 283 Violations

Compliance Meetings	16
Warning Letters	55
Consent Agreements	46
Prosecutions	2
Seizures (Short Weight/Measure)	38
Seizures (Amount/lbs)	1,104,647
Seizures (Value)	\$415,246
Fine Amounts	\$198,923

Certificates Issued

Livestock Weighmasters

3



A Weights and Measures Inspector conducts net content verification testing of agricultural products at a processing facility.

State Officials' Inspections Net Content Inspections

Net Content Inspections						
Field	<u>Surveys</u> 719	Packages Packages Approved Rejecte 6,990 2,049		Lots <u>Approved</u> 174	Lots <u>Rejected</u> 479	Compliant 26.65%
		Weights and M	leasures Devi	ice Inspectio	ns	
				Condemned		
·	cial Device		Approved	for Use	for Repair C	
•	mical Mete		0	0	0	N/A
	ivestock Sc		5	0	0	100
	veyor Scale	9	0	0	0	N/A
Counter			265	3	2	98.15
Crane So			0	0	0	N/A
Fuel Truc			51	3	6	85
Hopper S			1	0	0	100
	er (25 GPM		3	0	1	75
,		90				
Mass Flow Meter 7 0 1 87.5						
Monorail	_		0	0	0	N/A
•		oline Dispenser	11,428	261	729	92.03
	Veighing So		0	0	0	N/A
Platform	Scale (1,50	00 lbs or less)	39	2	0	95.12
	•	r 1,500 lbs)	26	0	0	100
Railroad	Track Scale	е	0	0	0	N/A
Single G	rade Gasol	ine Dispenser	15,812	491	881	92.02
Single Pr	oduct Mete	er (over 25 GPM)	335	14	59	82.11
Terminal	Meter		98	0	2	98
Vehicle S	Scale (2 sec	ction)	33	1	0	97.06
Vehicle S	Scale (3+ se	ection)	274	19	52	79.42
TOTAL			28,485	799	1,740	91.82

		Condemned	Condemne	d
Miscellaneous Devices/Standards	<u>Approved</u>	for Use	for Repair	Compliant (%)
Weights (Field Tested)	6	0	0	100

A Senior Weights and Measures Inspector performs an inspection on a livestock scale in preparation for the 2008 Michigan State Fair.



Registered Serviceperson Activities Registration Activities

Agencies Registered	100
Technicians Registered	309
Service Tests Administered	265

Devices Placed-In-Service by Registered Agencies

Retail Motor Fuel Dispensers	1,142
All Other Meters	293
Small Capacity Weighing Devices	1,974
Large Capacity Weighing Devices	265

Audit of Serviceperson Activities

<u>Nt</u>	<u>umber Conducted</u>	Compliance Rate
Internal	2,418	93.8%
Field	804	90.3%



A Field Metrologist conducts a technical review for industry participants in the Michigan Service Registration Program.

Currently, 138 agencies and 479 technicians are successfully registered under the Serviceperson Program.

Motor Fuels Quality Program

Tight markets in both crude oil production and refining caused gasoline prices to climb steadily and

hover at \$3 a gallon through most of FY 2007. This shifted both the gasoline marketers' and the consumers' buying habits. Marketers began buying less premium grades and incorporating ethanol into their products both as a cost savings measure and to meet the Renewable Fuel mandate imposed by the United States Environmental Protection Agency. Consumers also looked for cost savings and stopped buying the higher priced premium gasolines.

This shift in products offered and purchased was reflected in the type of fines issued for sample violations. Fines were issued for water in gasoline at a much higher rate then ever before as firms with little or no experience with ethanol blends failed to remove the water accumulation from their storage tanks. This resulted in the water being drawn by the ethanol into the gasoline and fines being issued for water found in 38 samples. Complaints of water in the gasoline receive an immediate response to stop the sale of contaminated gasoline to consumers. Incidence of misdelivery of fuels (four fines), and selling regular as premium fraud (two fines) were nearly non-existent. Fines issued for octane being lower than posted were issued for 10 additional samples.



A field metrologist checks an underground storage tank for water.

Each year the Motor Fuels Quality Program assesses new and existing problem areas in gasoline quality throughout the supply chain. Adjustments, such as posting an ethanol blender's guidance document on the department's website, are then implemented in program strategies to guide firms toward compliance. The program also conducts one on one guidance, both in the office and field, to help marketers meet compliance goals.

Motor Fuel Quality Information and Statistics Establishments Licensed

Gasoline Retail Outlets 4,868

Stop Sale Information

Excess Water in Underground Storage Tank	105
Failure to Meet Quality Standards	42



A field metrologist visually examines gasoline for water and sediment.

Complaint and Motor Fuels Quality Hotline Information

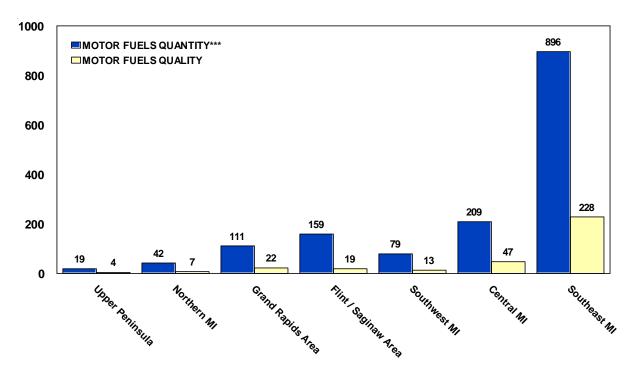
Complaints Received through 1-800-MDA-FUEL	2,183*
Gasoline Quality Complaints Investigated	333

Disposition of P.A. 44 Violations

Compliance Meetings	87
Warning Letters	594
Administrative Fines	266
Prosecutions	0
Fine Amounts	\$200,100

^{*}Note: Complaints outside of the program's responsibility received via the MFQ hotline were forwarded to the appropriate agency. All gasoline quality complaints were investigated.

Motor Fuel Quality Information and Statistics Complaints Investigated by Region



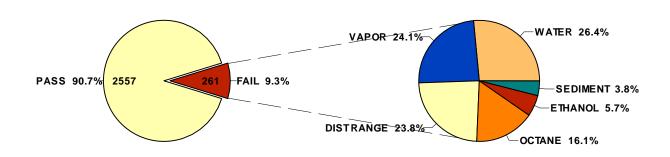
^{**} Jointly investigated with the Weights and Measures program.

Samples Procured

In addition to licensing, inspection, and complaint investigation responsibilities, Motor Fuels Quality Program staff regularly procures gasoline samples for quality testing. The following results are for FY 07:

Results	<u>Number</u>
Approved	2,557
Warning Letters	182
Non-actionable	2
Administrative Fines	77
Investigations In Progress	0
Total	2,818

Violation Rate and Breakdown



Samples were procured for the following reasons: a monthly random/stratified program, on-going investigations, consumer complaints, and to assure establishment compliance when there has been a previous violation.

Sample Results by Sampling Method

	Number of	Number of	
Sampling Reason	<u>Samples</u>	Violations	Compliant (%)
Routine	825	46	94.4
Complaint	322	66	79.5
Re-sample	186	44	76.3
Investigation	100	27	73
Confidential/Undercover	109	0	100
Other	989	64	93.5
Delinquent License	73	1	98.6
Quality Risk Assessment	214	13	93.9
TOTAL	2,818	261	90.7

Sample Results by Octane ((R+M)/2)

	Number of	Number of	
Octane (AKI)	<u>Samples</u>	Violations	Compliant (%)
86	9	0	100
87	1,323	68	94.9
88	2	0	100
89	618	45	92.7
90	0	0	N/A
91	20	1	95
92	144	13	91
93	636	124	80.5
94	58	9	84.5
Other	8	1	87.5
TOTAL	2,818	262	90.7



A field metrologist conducts a field check for gasoline octane.

Sample Results by Region

	Number of	Number of	
<u>Region</u>	<u>Samples</u>	Violations	Compliant (%)
Upper Peninsula	326	22	93.3
Northern Michigan	244	18	92.6
Grand Rapids Area	274	25	90.9
Flint/Saginaw Area	337	15	95.5
Southwest Michigan	203	15	92.6
Central Michigan	360	45	87.5
Southeast Michigan	1,074	121	88.7
TOTAL	2,818	261	90.7



A Senior Field Metrologist samples an E85 alternative fuel storage facility.

Vapor Pressure Lowered Again for Southeast Michigan

The maximum allowable vapor pressure is one primary distinction between winter and summer grade gasolines. When the weather turns warm, a high vapor pressure increases the evaporation of the gasoline into the atmosphere. The volatile organic compounds that are released from gasoline into the air not only contribute directly to health problems, but also indirectly through the formation of ground-level ozone and smog. Motor gasoline vapor pressure, which may be as high as 15 pounds per square inch (psi) during the winter, was mandated to be at, or below, 7.8 pounds per square inch in Southeastern Michigan during the summer. In order to meet federal clean air mandates, the vapor pressure in Southeast Michigan was lowered again in the summer of 2007 to 7.0 pounds per square inch.

This switch to an even lower vapor pressure combined with inconsistent ethanol use caused several firms to be out of compliance for vapor pressure. Co-mingling straight gasoline (gasoline that does not contain ethanol) and gasoline that contains 10 percent ethanol invalidates the 1.0 pound per square inch waiver afforded 10percent ethanol blends which resulted in 19 fines. One fine was also issued to a distributor identified as delivering Ohio non-compliant 9.0 psi gasoline into the Southeast Michigan control area.

Number of Field Audits and Samples Per County

Number of Field Audits per County
Lenawee36
Livingston13
Macomb79
Monroe31
Oakland115
St. Clair22
Washtenaw24
Wayne187

Field Audit and Sample Results*

	Field <u>Audits</u>	Official Samples	TOTAL
Number of Establishments*	433	203	580
Number of Audits Conducted*	507	295	802
Overall Establishments in Violation	11		
Establishment Violation Rate	1.9%		

^{*} When establishments were found in violation, multiple audits were conducted; and at some establishments multiple samples were collected.

Field Audits and Samples without Ethanol (7.0 psi RVP limit)

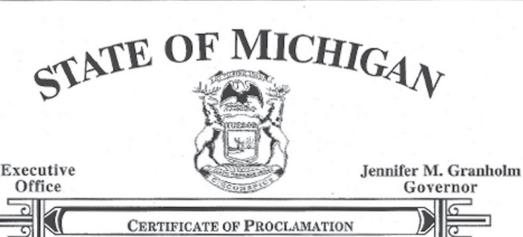
		Number	Number of
<u>Octane</u>	RVP Average	<u>Collected</u>	Violations
86	-	-	-
87	6.84	83	9
88	-	-	-
89	6.98	7	-
90	-	-	1
91	-	-	-
92	6.51	1	-
93	7.25	9	2
94	-	-	-
TOTAL	6.88	100	12

Field Audits and Samples with Ethanol (8.0 psi RVP limit)

		Number	Number of
<u>Octane</u>	RVP Average	<u>Collected</u>	<u>Violations</u>
86	-	-	-
87	7.94	361	5
88	-	-	-
89	7.93	31	2
90	-	-	-
91	-	-	-
92	7.72	1	-
93	7.9	13	1
94	7.61	1	-
TOTAL	7.94	407	8



Clean air is important to Michigan's environment and citizens. Monitoring gasoline evaporation restrictions helps reduce the release of over 28 tons of smog-causing compounds per day.



On behalf of the citizens of Michigan, I, Governor Jennifer M. Granholm hereby proclaim the week of March 4, 2007, as

Weights and Measures Week

Whereas, The Weights and Measures Program of the Michigan Department of Agriculture Laboratory Division serves to meet the public need of standard weights and measures in the State of Michigan; and,

Whereas, The employees of the Weights and Measures Program are responsible for ensuring that all weighing and measuring devices used in commerce are accurate in both their design and operation; and,

Whereas, Weights and measures activities have an estimated economic impact of over \$170 billion in Michigan annually; and,

Whereas, Each year the first week in March is set aside to commemorate the enactment of our nation's first Weights and Measures Law in 1799 and to increase public awareness of the importance of this law; and now therefore be it,

Resolved, That I, Jennifer M. Granholm, Governor of the State of Michigan, do hereby proclaim the week of March 4, 2007, as Weights and Measures Week in Michigan in conjunction with the national celebration of the 208° anniversary of our nation's first Weights and Measures Law.



endier M. Granholm Governor This report is issued under the provisions of Act No. 283 of the Public Acts, as amended, Section 7, being Section 290.607 of the Compiled Laws of 1979.

